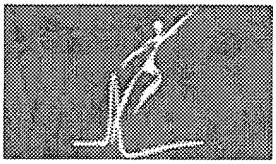


Science for the Brain
The nation's leading supporter of biomedical research on disorders of the brain and nervous system

Browse all disorders

Browse all health organizations

More about a disorder
Studies with patients
Research literature
Press releases

Disclaimer

Search NINDS... (help)
Go

Contact us
My privacy

NINDS is part of the National Institutes of Health

Browse All Disorders

(includes synonyms and research topics)

Request mailed brochures
Publicaciones en espapol

Select a letter to jump to the disorder... or return to top of page
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

A

ADHD
AIDS - Neurological Manifestations
Acquired Epileptiform Aphasia
Acute Disseminated Encephalomyelitis
Adrenoleukodystrophy

Agenesis of the Corpus Callosum
Agnosia
Aicardi Syndrome
Alexander Disease
Alpers' Disease

Alternating Hemiplegia
Alzheimer's Disease
Amyotrophic Lateral Sclerosis
Anencephaly
Aneurysm

Angelman Syndrome
Angiomatosis
Anoxia or Hypoxia
Aphasia
Apraxia

Arachnoid Cysts
Arachnoiditis
Arnold-Chiari Malformation
Arteriovenous Malformation
Asperger Syndrome

Ataxia Telangiectasia
Attention Deficit-Hyperactivity Disorder
Autism
Autonomic Dysfunction

Select a letter to jump to the disorder... or return to top of page
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

B

Back Pain
Batten Disease
Behcet's Disease
Bell's Palsy
Benign Essential Blepharospasm

Benign Focal Amyotrophy
Benign Intracranial Hypertension
Binswanger's Disease
Blepharospasm
Bloch-Sulzberger Syndrome

Brachial Plexus Birth Injuries
Brachial Plexus Injuries
Brain Aneurysm
Brain Injury
Brain and Spinal Tumors

Brown-Sequard Syndrome

Select a letter to jump to the disorder... or return to top of page
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

C

Canavan Disease
Carpal Tunnel Syndrome
Causalgia
Central Pain Syndrome
Cephalic Disorders

Cerebral Aneurysm
Cerebral Arteriosclerosis
Cerebral Atrophy
Cerebral Gigantism
Cerebral Palsy

Charcot-Marie-Tooth Disorder
Chiari Malformation
Chorea
Chronic Inflammatory Demyelinating Polyneuropathy (CIDP)
Chronic Pain

Chronic Regional Pain Syndrome
Coffin Lowry Syndrome
Coma, including Persistent Vegetative State
Congenital Facial Diplegia
Corticobasal Degeneration

Cranial Arteritis
Craniosynostosis
Creutzfeldt-Jakob Disease
Cumulative Trauma Disorders
Cushing's Syndrome

Cytomegalic Inclusion Body Disease (CIBD)
Cytomegalovirus Infection

Select a letter to jump to the disorder... or return to top of page
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

D

Dancing Eyes-Dancing Feet Syndrome

Dandy-Walker Syndrome
Dawson Disease
De Morsier's Syndrome
Dejerine-Klumpke Palsy

Dementia - Multi-Infarct
Dementia With Lewy Bodies
Dermatomyositis
Diabetic Neuropathy
Diffuse Sclerosis

Dysautonomia
Dysgraphia
Dyslexia
Dystonias

Select a letter to jump to the disorder... or return to top of page
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

E

Early Infantile Epileptic Encephalopathy
Empty Sella Syndrome
Encephalitis and Meningitis
Encephaloceles
Encephalotrigeminal Angiomatosis

Epilepsy
Erb's Palsy

Select a letter to jump to the disorder... or return to top of page
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

F

Fabry's Disease
Fahr's Syndrome
Fainting
Familial Spastic Paralysis
Febrile Seizures

Fisher Syndrome
Friedreich's Ataxia

Select a letter to jump to the disorder... or return to top of page
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

G

Gaucher's Disease
Gerstmann's Syndrome
Giant Cell Arteritis
Giant Cell Inclusion Disease
Globoid Cell Leukodystrophy

Guillain-Barre Syndrome

Select a letter to jump to the disorder... or return to top of page
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

H

HTLV-1 Associated Myelopathy
Hallervorden-Spatz Disease
Head Injury
Headache
Hemifacial Spasm

Hemiplegia Alterans
Hereditary Spastic Paraplegia
Heredopathia Atactica Polyneuritiformis
Herpes Zoster Oticus
Herpes Zoster

Hirayama Syndrome
Holoprosencephaly
Huntington's Disease
Hydranencephaly
Hydrocephalus

Hypercortisolism
Hypoxia

Select a letter to jump to the disorder... or return to top of page
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

I

Immune-Mediated Encephalomyelitis
Inclusion Body Myositis
Incontinentia Pigmenti
Infantile Phytanic Acid Storage Disease
Infantile Refsum Disease

Infantile Spasms
Inflammatory Myopathy
Intracranial Cysts
Intracranial Hypertension

Select a letter to jump to the disorder... or return to top of page
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

J

Joubert Syndrome

Select a letter to jump to the disorder... or return to top of page
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

K

Kearns-Sayre Syndrome
Kennedy Disease
Kinsbourne syndrome

Klippel Feil Syndrome
Krabbe Disease

Kugelberg-Welander Disease
Kuru

Select a letter to jump to the disorder... or return to top of page
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

L

Landau-Kleffner Syndrome
Lateral Medullary Syndrome
Learning Disabilities
Leigh's Disease
Lennox-Gastaut Syndrome

Lesch-Nyhan Syndrome
Leukodystrophy
Lewy Body Dementia
Lissencephaly
Locked-In Syndrome

Lou Gehrig's Disease
Lupus - Neurological Sequelae
Lyme Disease - Neurological Sequelae

Select a letter to jump to the disorder... or return to top of page
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

M

Machado-Joseph Disease
Macrencephaly
Megalencephaly
Melkersson-Rosenthal Syndrome
Meningitis

Menkes Disease
Metachromatic Leukodystrophy
Microcephaly
Miller Fisher Syndrome
Mini-Strokes

Mitochondrial Myopathies
Mobius Syndrome
Monomelic Amyotrophy
Motor Neuron Diseases
Moyamoya Disease

Mucopolysaccharidoses
Multi-Infarct Dementia
Multifocal Motor Neuropathy
Multiple Sclerosis
Multiple System Atrophy with Postural Hypotension

Muscular Dystrophy
Myasthenia Gravis

Myelinoclastic Diffuse Sclerosis
Myoclonic Encephalopathy of Infants
Myoclonus

Myopathy
Myotonia Congenita

Select a letter to jump to the disorder... or return to top of page
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

N

Narcolepsy
Neurofibromatosis
Neuroleptic Malignant Syndrome
Neurological Manifestations of AIDS
Neurological Sequelae Of Lupus

Neurological Sequelae Of Lyme Disease
Neuronal Ceroid Lipofuscinosis
Neuronal Migration Disorders
Niemann-Pick Disease

Select a letter to jump to the disorder... or return to top of page
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

O

O'Sullivan-McLeod Syndrome
Occipital Neuralgia
Occult Spinal Dysraphism Sequence
Ohtahara Syndrome
Olivopontocerebellar Atrophy

Opsoclonus Myoclonus
Orthostatic Hypotension
Overuse Syndrome

Select a letter to jump to the disorder... or return to top of page
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

P

Pain - Chronic
Paresthesia
Parkinson's Disease
Parmyotonia Congenita
Parry Romberg

Pelizaeus-Merzbacher Disease
Periodic Paralyses
Peripheral Neuropathy
Persistent Vegetative State
Pervasive Developmental Disorders

Phytanic Acid Storage Disease
Pick's Disease

Pinched Nerve
Pituitary Tumors
Polymyositis

Porencephaly
Post-Polio Syndrome
Postherpetic Neuralgia
Postinfectious Encephalomyelitis
Postural Hypotension

Primary Lateral Sclerosis
Prion Diseases
Progressive Hemifacial Atrophy
Progressive Multifocal Leukoencephalopathy
Progressive Sclerosing Poliodystrophy

Progressive Supranuclear Palsy
Pseudotumor Cerebri

Select a letter to jump to the disorder... or return to top of page
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

R

Ramsay Hunt Syndrome Type I
Ramsay Hunt Syndrome Type II
Rasmussen's Encephalitis
Reflex Sympathetic Dystrophy Syndrome
Refsum Disease - Infantile

Refsum Disease
Repetitive Motion Disorders
Repetitive Stress Injuries
Restless Legs Syndrome
Retrovirus-Associated Myelopathy

Rett Syndrome
Reye's Syndrome

Select a letter to jump to the disorder... or return to top of page
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

S

Saint Vitus Dance
Salivary Gland Disease
Sandhoff Disease
Schilder's Disease
Schizencephaly

Seizure Disorder
Septo-Optic Dysplasia
Shaken Baby Syndrome
Shingles
Shy-Drager Syndrome

Sjogren's Syndrome
Sleep Apnea

Soto's Syndrome
Spasticity
Spina Bifida

Spinal Cord Injury
Spinal Cord Tumors
Spinal Muscular Atrophy
Stiff-Person Syndrome
Stroke

Sturge-Weber Syndrome
Subacute Sclerosing Panencephalitis
Subcortical Arteriosclerotic Encephalopathy
Sydenham Chorea
Syncope

Syringomyelia
Systemic Lupus Erythematosus

Select a letter to jump to the disorder... or return to top of page
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

T

Tardive Dyskinesia
Tay-Sachs Disease
Temporal Arteritis
Tethered Spinal Cord Syndrome
Thomsen Disease

Thoracic Outlet Syndrome
Tic Douloureux
Todd's Paralysis
Tourette Syndrome
Transient Ischemic Attack

Transmissible Spongiform Encephalopathies
Transverse Myelitis
Traumatic Brain Injury
Tremor
Trigeminal Neuralgia

Tropical Spastic Paraparesis
Tuberous Sclerosis

Select a letter to jump to the disorder... or return to top of page
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

V

Vasculitis including Temporal Arteritis
Von Hippel-Lindau disease (VHL)

Select a letter to jump to the disorder... or return to top of page
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

W

Wallenberg's Syndrome
Werdnig-Hoffman Disease
West Syndrome
Whiplash
Williams Syndrome

Wilson's Disease

Select a letter to jump to the disorder... or return to top of page
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Z

Zellweger Syndrome

Google Web Directory

Google Search Directory Help

◉ Search only in Neurological Disorders ○ Search the Web

Neurological Disorders

Health > Conditions and Diseases > Neurological Disorders Go to Directory Home

Categories

Alternating Hemiplegia (3)
Alzheimer's (155)
Amyotrophic Lateral Sclerosis (72)
Ataxia (10)
Autonomic Nervous System (52)
Brain Diseases (186)
Cerebral Palsy (178)
Chromosomal (18)
Chronic Fatigue Syndrome (130)
Chronic Pain Syndromes (8)
Congenital Anomalies (105)
Cranial Nerve Diseases (55)
Dementia (69)
Demyelinating Diseases (285)
Dysautonomia (21)
Epilepsy (209)
Facial Differences (95)
Headaches (180)
Huntington's Disease (27)
Hydrocephalus (55)
Infections (65)
Meningitis (6)
Movement Disorders (163)
Muscle Diseases (135)
Neoplasms (23)
Neurocutaneous Syndromes (3)
Neurodegenerative Diseases (71)
Neurologic Manifestations (22)
Neurotoxicity Syndromes (12)
Ocular Motility Disorders (18)
Parkinson's Disease (71)
Peripheral Nervous System (199)
Pituitary Disorders (76)
Porencephaly (5)
Rett Syndrome (27)
Sleep Disorders (326)
Spinal Cord (28)
Stroke (82)
Tourette Syndrome (67)
Trauma and Injuries (318)

Related Categories:

Health > Mental Health > Disorders > Neurodevelopmental (741)
Health > Medicine > Medical Specialties > Neurology (268)
Health > Conditions and Diseases > Communication Disorders (357)

Web Pages **Viewing in Google PageRank order** **View in alphabetical order**

Hardin MD: Neurology & Neurosciences - http://www.lib.uiowa.edu/hardin/md/neuro.html
Lists of Internet sources in neurology, neurosurgery, and neurosciences, and nervous system diseases (brain, spine, nerves).

Brain.com - http://www.brain.com/
Information about the brain and brain health and fitness.

Neurological Disorders - MCW HealthLink - http://healthlink.mcw.edu/neurological-disorders/
Information on neurological disorders from physicians of the Medical College of Wisconsin.

Neurological Disorders Resources - http://faculty.washington.edu/chudler/disorders.html
Good descriptions of common neurological disorders from the University of Washington.

actionCNS - http://www.actioncns.com/index.asp
Comprehensive news, resources and links. Registration needed for some pages.

CNS Disorders - What's New? - http://www.uni-hohenheim.de/~rebhan/rp.html
Discoveries that were made starting with the year 2000 and going backwards. Done in point form with links to the articles pertaining to each subject matter.

Central Nervous System Diseases -

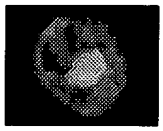
http://omni.ac.uk/text/browse/mesh/detail/C0007682L0007682.html
An online tutorial from the Virtual Hospital collection, on infectious diseases of the CNS. Includes diseases which involve primarily the Meninges and those which are confined primarily to the Parenchyma.

Neurology and Neurosurgery Forum - http://www.medhelp.org/Forums/neuro/
Online medical forum, questions and answers, about neurological diseases and conditions. Located at Cleveland Clinic Foundation.

Neurology Webforums at Massachusetts General Hospital - http://neuro-mancer.mgh.harvard.edu/cgi-bin/Ultimate.cgi
Extensive collection of discussion groups.

Turning Blood into Brain: New Studies Suggest Bone Marrow Stem Cells Can Develop into Neurons in Living Animals

For release: Thursday, November 30, 2000



For years, researchers studying stem cells have been intrigued by the possibility that these cells might be used to treat brain diseases. Recent studies have suggested that neural stem cells transplanted into the brain can migrate throughout the brain and develop into other types of cells. Now, two new studies show that bone marrow cells transplanted into mice can migrate into the brain and develop into cells that appear to be neurons. The studies suggest that bone marrow may be a readily available source of neural cells with potential for treating such neurological disorders as Parkinson's disease and traumatic brain injury.

While previous research has shown that bone marrow cells can develop into neuron-like cells in culture, the new studies are the first to show that this process can also happen in living animals. The two studies reached the same conclusion despite many differences in how the studies were performed. The results are reported in the December 1, 2000, issue of *Science*.

"These are extraordinarily important studies, carefully done, with clear implications for brain disorders and for basic developmental biology," says Gerald D. Fischbach, M.D., director of the National Institute of Neurological Disorders and Stroke (NINDS).

In the first study,[1] NINDS investigator Eva Mezey, M.D., Ph.D., and colleagues injected bone marrow cells from normal male mice into newborn female mice that had no white blood cells of their own. Using marrow from male mice allowed the researchers to use the Y chromosomes in the transplanted cells as a marker to distinguish them from native cells. At different time intervals, the researchers examined cells from the brains of seven mice that had received the transplants and compared them to littermates that had not received the transplants. By 4 months after the transplants, they found a significant number of neuronal cells in several brain regions, including the cortex, the hypothalamus, and the striatum, that were descendants of the transplanted cells. This suggests that stem cells from elsewhere in the body can enter the brain and differentiate into neuronal cells, says Dr. Mezey.

In the second study,[2] Helen Blau, Ph.D., and colleagues from Stanford University injected bone marrow from adult mice that express a marker called green fluorescent protein (GFP) into adult mice that had been irradiated to eliminate their bone marrow. They found that bone marrow-derived cells migrated into several regions of the brain, including the olfactory bulb, the cortex, the hippocampus, and the cerebellum. Some of the marrow-derived neuronal cells also grew long fibers and produced a protein that indicates cell activity. These results suggest that the marrow-derived neurons not only entered the brain but also responded to their environment and began to function like the native ones.

These studies suggest that bone marrow, which is an easily available source of cells, could be used as a source of neurons to replace those damaged or lost in neurological disorders, the researchers say. It might also be possible to genetically engineer the cells in ways that would help them survive or work in beneficial ways. The fact that even bone marrow from adult mice generated neuronal cells shows an unexpected amount of flexibility in older cells and suggests that patients with brain disorders could be treated with their own cells, says Dr. Blau. Bone marrow cells taken from a patient's own body would not be rejected by the body's immune system.

While the results are very promising, researchers need to answer many remaining questions before marrow-derived neural cell therapies can be tested in humans. A key question is what growth factors and other signals prompt the bone marrow cells to develop into specific types of neurons. If researchers can describe how the normal process of cell differentiation works, they may be able to reproduce it in patients with disorders such as brain injury or Parkinson's disease where neurons are not normally replaced. Researchers might also be able to discover factors that help cells enter the brain or connect with other cells. "We need much more data, but I think it's a pretty encouraging start," says Dr. Mezey.

Since the studies used whole bone marrow, it is important to determine which population of bone marrow cells develop into neurons, the researchers say. Other questions for future studies include whether marrow-derived neurons function like normal neurons and if they can make appropriate connections with other cells. The

findings in Science should speed the pace of research to answer these and other important questions, the researchers say. However, they believe it will be several more years before the results reported in these studies will lead to effective therapies.

The NINDS, part of the National Institutes of Health in Bethesda, Maryland, is the nation's leading supporter of research on the brain and nervous system. The NINDS is now celebrating its 50th anniversary.

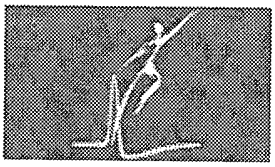
[1]Mezey, E., Chandross K.J., et. al. "Turning Blood into Brain: Cells Bearing Neuronal Antigens Generated in Vivo from Bone Marrow." *Science*, Vol. 290, December 1, 2000, pp. pp. 1779-1782.

[2]Brazelton, T.R., Rossi, F.M.V., et.al. "From Marrow to Brain: Expression of Neuronal Phenotypes in Adult Mice from Adult Bone Marrow-Derived Cells." *Science*, Vol. 290, December 1, 2000, pp. 1775-1779.

Image description: Photograph of a neuronal cell derived from bone marrow. The green spot indicates the Y chromosome which distinguishes this cell from innate cells. Science/Dr. Eva Mezey, NINDS.

Reporters: for more information contact Natalie Frazin or Margo Warren, NINDS Office of Communications and Public Liaison, at 301-496-5751.

Reviewed July 1, 2001



Science for the Brain
The nation's leading supporter of biomedical research on disorders of the brain and nervous system

Browse all disorders

Browse all health organizations

More about Parkinson's Disease
Studies with patients
Research literature
Press releases

Disclaimer

Search NINDS... (help)

Go

Contact us
My privacy

NINDS is part of the National Institutes of Health

NINDS Parkinson's Disease Information Page

Reviewed 08-17-2001

Get Web page suited for printing
Email this to a friend or colleague

Table of Contents (click to jump to sections)

What is Parkinson's Disease?
Is there any treatment?
What is the prognosis?
What research is being done?

Organizations
Related NINDS Publications and Information
Additional resources from MEDLINEplus

What is Parkinson's Disease?
Parkinson's disease belongs to a group of conditions called motor system disorders. Parkinson's and related disorders are the result of the loss of dopamine-producing brain cells. Dopamine is a chemical messenger responsible for transmitting signals within the brain. Parkinson's disease occurs when certain nerve cells, or neurons, die or become impaired. Normally, these neurons produce dopamine. Loss of dopamine causes the nerve cells to fire out of control, leaving patients unable to direct or control their movement in a normal manner. The four primary symptoms of Parkinson's are tremor or trembling in hands, arms, legs, jaw, and face; rigidity or stiffness of the limbs and trunk; bradykinesia, or slowness of movement; and postural instability or impaired balance and coordination. Patients may also have difficulty walking, talking, or completing other simple tasks. The disease is both chronic and progressive. Parkinson's is not usually inherited. Early symptoms are subtle and occur gradually.

Is there any treatment?
A variety of medications provide dramatic relief from the symptoms, but no drug can stop the progression of the disease. In some cases, surgery is an appropriate treatment. Some doctors recommend physical therapy or muscle-strengthening exercises.

What is the prognosis?
At present, there is no way to predict or prevent Parkinson's disease.

What research is being done?
The NINDS supports a broad range of studies aimed at discovering the cause(s) of Parkinson's disease, finding better treatments, and ultimately preventing and curing the disorder. For more information, please visit the Parkinson's Disease Research Web Site.

Organizations

American Parkinson Disease Association
1250 Hylan Blvd.
Suite 4B
Staten Island, NY 10305-1946

info@apdaparkinson.org
http://www.apdaparkinson.org
Tel: 718-981-8001 800-223-2732 Calif: 800-908-2732
Fax: 718-981-4399

National Parkinson Foundation
1501 N.W. 9th Avenue
Bob Hope Research Center
Miami, FL 33136-1494
mailbox@parkinson.org
http://www.parkinson.org/
Tel: 305-547-6666 800-327-4545 Fla: 800-433-7022
Fax: 305-243-4403

Parkinson Alliance
211 College Road East
3rd Floor
Princeton, NJ 08540
admin@parkinsonalliance.net
http://www.parkinsonalliance.net
Tel: 609-688-0870 800-579-8440
Fax: 609-688-0875

Michael J. Fox Foundation for Parkinson's Research
Grand Central Station
P.O. Box 4777
New York, NY 10163
http://www.michaeljfox.org
Tel: 212-213-3525

Parkinson's Action Network (PAN)
300 North Lee Street
Suite 500
Alexandria, VA 22314
info@parkinsonsaction.org
http://www.parkinsonsaction.org
Tel: 800-850-4726 703-518-8877 Calif: 707-544-1994
Fax: 703-518-0673

Parkinson's Disease Foundation (PDF)
710 West 168th Street
New York, NY 10032-9982
info@pdf.org
http://www.parkinsons-foundation.org
Tel: 212-923-4700 800-457-6676
Fax: 212-923-4778

Parkinson's Institute
1170 Morse Avenue
Sunnyvale, CA 94089-1605
outreach@parkinsonsinstitute.org
http://www.parkinsonsinstitute.org
Tel: 408-734-2800 800-786-2958
Fax: 408-734-8522

Parkinson's Resource Organization
74-090 El Paseo
Suite 102
Palm Desert, CA 92260-4135

copsca@gte.net
http://www.parkinsonsresource.org
Tel: 760-773-5628 310-476-7030 877-775-4111
Fax: 760-773-9803

Worldwide Education & Awareness for Movement Disorders (WE MOVE)
204 West 84th Street
New York, NY 10024
wemove@wemove.org
http://www.wemove.org
Tel: 800-437-MOV2 (6682) 212-875-8312
Fax: 212-875-8389

Related NINDS Publications and Information

- Parkinson's Disease: Hope Through Research

An informational booklet on Parkinson's Disease compiled by the National Institute of Neurological Disorders and Stroke (NINDS).

- La Enfermedad de Parkinson: Esperanza en la Investigacion

A Spanish-language public information booklet on Parkinson's disease/Informacion de la Enfermadad de Parkinson.

- Parkinson's Disease Research Agenda

NINDS Parkinson's Disease Research Agenda, March 2000.

- Parkinson's Disease Backgrounder

A backgrounder on Parkinson's disease.

- September 1999 Parkinson's Testimony

NINDS Director's September 1999 Congressional testimony on NIH Parkinson's disease research.

- Parkinson's Disease: A Research Planning Workshop

Summary of a 1995 Parkinson's disease research planning workshop sponsored by the National Institutes of Health.

- Researchers Find Genetic Links for Late-Onset Parkinson's Disease

December 2001 news summary on recent findings in Parkinson's disease genetics.

- Parkinsonian Symptoms Decrease in Rats Given Stem Cell Transplants

January 2002 news summary on embryonic stem cells used in a mouse model for Parkinson's disease.

- Workshop Summary: Cognitive and Emotional Aspects of Parkinson's Disease

Summary of a workshop, "Cognitive: and Emotional Aspects of Parkinson's disease: Working Group Meeting", held January 25-26, 2001.

- Third Annual Udall Centers of Excellence for Parkinson's Disease Research Meeting

Summary of Third Annual Udall Centers for Parkinson's Disease Research meeeting. NINDS, the National Institute of Neurological Disorders and Stroke, is the leading supporter of biomedical research on the brain and nervous system.

- Parkinson's Disease Research Web

An NIH disease specific web site to facilitate research on Parkinson's Disease. NINDS, the National Institute of Neurological Disorders and Stroke, is the leading supporter of biomedical research on the brain and nervous system.

- Myoclonus

Myoclonus fact sheet compiled by the National Institute of Neurological Disorders and Stroke (NINDS).

- Tremor

Tremor information sheet compiled by the National Institute of Neurological Disorders and Stroke (NINDS).

Provided by:
The National Institute of Neurological Disorders and Stroke
National Institutes of Health
Bethesda, MD 20892

Return to top

Home | About NINDS | *Disorders* | Funding | News & Events | Find People | Jobs & Training | Accessibility